

## HITEC Lab

**Title:** Basic characterization of materials and devices  
**Date:** 24 February 2016  
**Time:** 9 a.m. – 4:30 p.m.  
**Location:** [Forschungszentrum Jülich](#) ► ZEA-3, Build. 04.8, R 369

Part of the work at Jülich is the development of new materials as well as the use of new materials for energy applications. In these cases a detailed analysis of composition, the surface, modifications and changes within the materials (for example by aging) is necessary

The 2 day hands-on training course will provide basic information on the analytical techniques available at ZEA-3 including ICP-OES/-MS; SIMS, Atomprobe, XPS, Chemisorption and Solidstate-NMR. Possibilities and limitations of the techniques will be discussed and the projects of the Ph.D. will be discussed with respect of possible contributions by the ZEA-3 techniques.

### You will learn:

- A basic understanding of the characterization techniques with their application range
- First basic on your project in analytical characterization will be discussed and started.

### Methods:

- 1) 1 day theoretical background, application fields and project discussions
- 2) 1 day hands-on training on your projects

### Number of Participants:

5 – 10 (depending on the number of participants, 1 or 2 practical days will be conducted)

### Responsible Scientists:

Dr. Uwe Breuer  
Dr. Heinrich Hartmann  
Dr. Volker Nischwitz  
Dr. Sabine Willbold

The HITEC Labs are hands-on periods of practical training lasting 2 to 3 days, in which small groups of students from various institutes concentrate on one method that is applied in various fields. The aim of the HITEC Labs is to enable the PhD students to appreciate that a method originating from an unrelated field may also be applied in their own work. If students should discover that they require more intensive instruction in applying the method than can be imparted during the HITEC Lab, then they can make arrangements with PhD students at the institute in question to work at the institute for a limited period.